

Flathead Chub

Platygobio gracilis

Best Management Practices

Missouri Department of Conservation

Common name ▪ Flathead chub
Scientific name ▪ *Platygobio gracilis*
State status ▪ Endangered
Federal status ▪ None

Ecology

The historical range of the flathead chub includes the entire length of the Missouri River and the Mississippi River from the mouth of the Missouri southward to the Arkansas state line. Flathead chubs inhabited a diverse range of habitats. In large rivers, they were found in continuously turbid waters with swift current and substrates composed of sand and fine gravel. In northwestern Missouri, they were also found in pools of small creeks with clear water, little current, and substrates composed of coarse gravel and bedrock. Flathead chubs are likely generalists in their dietary needs and use external taste buds to find food. Main food items are terrestrial insects that fall into the water, as well as small aquatic insects and algae. Flathead chubs rely on flood flows to spawn successfully. Spawning occurs when rivers have subsided after peak flow, when the temperature is warmer and the bottom is more stable. Spawning may occur in early spring because chubs less than one inch long were collected in Missouri in late May.

Reasons for Decline

Surveys done between 1940-1960 show that flathead chubs comprised a large percentage of fish in the Missouri and Mississippi rivers. However, by the mid-1960's, their populations had begun to decline rapidly. The declines coincided with the construction of large reservoirs on the Missouri River upstream of Missouri, which changed the natural flow regimen and reduced turbidity of the water. Dewatering, stream channelization, reduction in natural flooding patterns and pollution are also factors in the decline of flathead chubs.



Photo Credit: http://www.kdwp.state.ks.us/news/other_services/threatened_and_endangered_species/threatened_and_endangered_species/species_images/flathead_chub

Recommendations

As with other aquatic species, flathead chubs benefit from practices that reduce alterations to water quality, water turbidity and flow regimens.

Beneficial Practices

- Livestock exclusion from streams.
- Nutrient and pest management on adjacent agricultural fields that results in reduced opportunities for runoff.
- Practices that control erosion and prevent the delivery of sediment

to the aquatic system will prove beneficial to this species.

Adverse Practices

- Gravel mining beyond removal of the excess material on adjacent unconsolidated bars.
- Constructing dams and other impoundment structures on streams that host the fish.
- Overlooking erosion and ignoring sediment control.
- Culverts, fords, and stream crossings that create a barrier to fish passage.
- Unnecessary vehicle and equipment stream crossing.
- Removing or degrading the riparian corridor near springs and along streams
- Application of pesticides, herbicides, insecticides, and inorganic fertilizers that alter aquatic vegetation and/or micro- or macroinvertebrates.
- Project activities which occur below high water levels between July 1st and August 31st.

Information Contacts

For further information regarding regulations for development in rivers and streams, contact:

Missouri Department of Conservation
Policy Coordination Section
P.O. Box 180
2901 W. Truman Blvd
Jefferson City, MO 65102-0180
Telephone: 573-751-4115

<http://www.mdc.mo.gov/nathis/endangered/>

Missouri Department of Natural Resources
Division of Environmental Quality
P.O. Box 176
Jefferson City, MO 65102-0176
Telephone: 800-361-4827 / 573-751-1300
<http://www.dnr.mo.gov/env/index.html>

U.S. Army Corps of Engineers
Regulatory Branch
700 Federal Building
601 E. 12th Street
Kansas City, MO 64106-2896
Telephone: 816-389-3990
<http://www.nwk.usace.army.mil/>

U.S. Environmental Protection Agency
Water, Wetlands, and Pesticides Division
901 North 5th Street
Kansas City, KS 66101
Telephone: 913-551-7003 / 800-223-0425
<http://www.epa.gov/region7/>

U.S. Fish and Wildlife Service
Ecological Services Field Office
101 Park DeVille Dr., Suite A
Columbia, MO 65203
Telephone: 573-234-2132
<http://www.fws.gov/midwest/partners/missouri.html>

Legal

These Best Management Practices were prepared by the Missouri Department of Conservation with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat.

Compliance with Best Management Practices is not required by the Missouri wildlife and forestry law or by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.

“State Endangered Status” is determined by the Missouri Conservation Commission under constitutional authority, and specific requirements for impacts to such

species are expressed in the Missouri
Wildlife Code, rule 3 CSR 10-4.111.